

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A method for predicting motion vectors associated with blocks of pixels of a picture to be included in a data stream for differential motion vector coding of a video signal, said method comprising the steps of:

organising a set of reference pictures into a pair of lists and according to each reference picture within said lists at least one reference index;

associating with selected ones of said blocks in said video signal at least one motion vector that references a respective one of said lists, each vector associated with a selected one of the blocks referencing a different list of said lists, each vector defining disposition of said selected one of the blocks relative to a reference picture in the respective one of said lists; and,

computing a predicted value for a current vector of said vectors for a current block from vectors of adjacent blocks referencing a same list of reference pictures as the current vector, wherein prediction of a motion vector that selects a reference picture using a first list of reference pictures is not dependent upon motion vectors whose reference pictures are selected using a second list of reference pictures.

2. (Previously Presented) The method of claim 1 wherein said computing uses values of spatially neighbouring motion vectors that use the same list of reference pictures as the current vector regardless of relative temporal direction of reference pictures selected for the current vector and neighbouring motion vectors.

3. (Previously Presented) The method of claim 1 wherein the motion vector coding supports a plurality of block partition sizes for performing motion compensation.

4. (Previously Presented) The method of claim 3 wherein the block partition sizes include partitions of 16x16, 16x8, 8x16, 8x8, 8x4, 4x8, and 4x4 luminance samples.
5. (Previously Presented) The method of claim 1 wherein said motion vectors may be computed using one of a plurality of predefined computation strategies.
6. (Previously Presented) The method of claim 5 wherein a first strategy of said strategies uses a vector from a single neighbouring block that uses the same list as the current vector.
7. (Previously Presented) The method of claim 6 wherein said first strategy is applied only when a block partition size of the current block for the current vector is 16x8 or 8x16 luminance samples.
8. (Previously Presented) The method of claim 7 wherein if the current vector applies to a top half of a 16x8 partitioned macroblock and a block immediately above the current block in the picture contains a vector that uses the same reference picture list and reference index as the current vector, the current vector is set equal to the vector that uses the same reference picture list in the block immediately above.
9. (Previously Presented) The method of claim 7 wherein if the current vector applies to a bottom half of a 16x8 partitioned macroblock and a block immediately left of the current block contains a vector that uses the same reference picture list and reference index as the current vector, the current vector is set equal to the vector that uses the same reference picture list in the block immediately left of the current block.
10. (Previously Presented) The method of claim 7 wherein if the current vector applies to a left half of an 8x16 partitioned macroblock and a block immediately left contains a vector that uses the same reference picture list and reference index as the current vector, the current vector is set equal to the vector that uses the same reference picture list in the block immediately left.
11. (Previously Presented) The method of claim 7 wherein if the current vector applies to a right half of an 8x16 partitioned macroblock, and a block above and to the right of the current block is

available, and the above and to the right block contains a vector that uses the same reference picture list and reference index as the current vector, the current vector is set equal to the vector that uses the same reference picture list in the block above and to the right of the current block.

12. (Previously Presented) The method of claim 7 wherein if the current vector applies to a right half of an 8x16 partitioned macroblock, and a block immediately above and to the right is not available but a block above and to the left is available, and the block above and to the left contains a vector that uses the same reference picture list and reference index as the current vector, the current vector is set equal to the vector that uses the same reference picture list in the block above and to the left.

13. (Previously Presented) The method of claim 5 wherein a second strategy selects vectors from up to three neighbouring blocks.

14. (Previously Presented) The method of claim 13 wherein said three neighbouring blocks are a block to the left of the current block, a block above the current block, and a block above and to the right of the current block.

15. (Previously Presented) The method of claim 14 wherein if the block above and to the right is not available then the block above and to the left is used, if available.

16. (Previously Presented) The method of claim 13 wherein if no vector using the same reference picture list is available in one of said three neighbouring blocks, a zero-valued motion vector, (0,0), is used in place of a vector from one of said three neighbouring blocks.

17. (Previously Presented) The method of claim 13 wherein if blocks above, above and to the left, and above and to the right of the current block are not available within a same picture or slice as the current block, and a block to the left of the current block is available, the current vector is set equal to a vector used for the block to the left of the current block.

18. (Previously Presented) The method of claim 13 wherein if a left block is an only available block of the three neighbouring blocks, and if one and only one of the three neighbouring blocks contains a

vector that uses the same reference picture list as the current block and uses a reference index equal to the reference index used for the current block, the current vector is set equal to the value of said vector.

19. (Previously Presented) The method of claim 13 wherein if the current vector has not been computed according to either of claims 17 or claim 18 then the current vector is computed by taking a component-wise median of three neighbouring vectors.

20. (Previously Presented) The method of claim 19 wherein if no vector using the same reference picture list is available in one of said three neighbouring blocks, a zero-valued motion vector, (0,0), is used in place of a vector from one of said three neighbouring blocks.